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ABSTRACT

A review of school effectiveness literature is presented in this paper. Research studies and other literature on this topic are examined, including case studies, surveys and evaluations, studies of program implementations, and organizational theories of schools and other institutions. Emphasis is given to organizational theories and findings concerning small organizations and program implementation, which suggest ways of approaching and understanding efforts to change schools. Attention is also given to identifiable characteristics of schools and school personnel and the way that schools actually operate and change. Effective schools are seen to be characterized by order, structure, purposefulness, a humane atmosphere, and the use of appropriate instructional techniques. It is noted that what appears to be lacking from the literature are suggestions on how to develop these characteristics in the schools. A different approach to school improvement is offered, involving the concept of a school cultural perspective in which schools are viewed as dynamic social systems made up of interrelated factors. In a portrait of an effective school, a description is given of the sustaining characteristics of such a school, including collaborative planning and collegial relationships, sense of community, clear goals and high expectations commonly shared, and order and discipline. A proposed strategy for change is outlined. (JD)

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EFFECTIVE SCHOOLS--A REVIEW*

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INTRODUCTION

A literature on school effectiveness has emerged that challenges the assumption that differences among schools have little impact on student academic achievement. In this paper we critically review the new school effectiveness literature. We find it weak in many respects, most notably in its tendency to present narrow, oft times simplistic recipes for school improvement derived from non-experimental data. Theory and common sense, however, do support many of the findings of school effectiveness research. Building on that we attempt to integrate this research with recent theories of organizational change and implementation in order to gain a richer, more complex notion of academically effective schools. Finally, we present a speculative portrait of an effective school and propose a strategy for change.

I. An orientation toward studying the school

The quest to discover how to increase the academic achievement of students from all walks of life has not been overwhelmingly successful. Many factors shown to have a dramatic influence on student learning--family background and related variables (Coleman 1966; Jencks et al. 1972)--are not easy to manipulate, at least not in the short run. Other variables which can be measured and, in theory, changed relatively easily, usually by spending money, have been found to bear little relationship to achievement: decreasing class size, raising teacher salaries, buying more library books, changing the reading series, constructing new school buildings, or adding compensatory education

programs (Coleman 1966; Jencks et al. 1972; Stephens 1967; Averch et al 1972; and more recently Hanushek 1981; Murnane 1980; Mullin and Summers 1981).

In contrast, the new literature on the determinants of achievement has been concerned with variables relating to (1) the way that schools and school districts are structured and make decisions; (2) the process of change in schools and school districts; and (3) the way in which classrooms and schools can be changed to increase the time that is spent on productive instruction. Although these variables are less susceptible to mechanical changes in policy, they are alterable (Bloom 1981)--generally with difficulty, but often for little money. While the research is more suggestive than conclusive, there is evidence that certain of these variables have a consistent relationship to student achievement. Variables which influence achievement can be found at all levels of local schooling: the classroom, the school, and the district. Examples at each level include increasing classroom "academic learning time" (Fisher et al. 1980), creating a school atmosphere conducive to learning (Weber 1971), and district allowance of school-site management (Hargrove et al. 1981). Moreover, these particular variables derive strength from recent theories of school learning (see Carroll 1963), organization and management (see March and Olsen 1976; Derr and Deal 1979) and implementation and change (Berman and McLaughlin 1975, 1977, 1978; Elmore 1978, 1979).[1]

In this paper we consider school-level factors. A focus on the school, however, cannot ignore other levels of a school system. Following Barr and Dreeban (1981), we view school systems as "nested layers" in which each organizational level sets the context and defines

the boundaries for the layer below (though there is a reciprocal influence). If the locus of the educational process is at the lowest structural level, the classroom, it is nevertheless the adjacent layer, the school, which forms the immediate environment in which the classroom functions. The quality of the process at the classroom level will be enhanced or diminished by the quality of activity at the level above it.[2]

There has been a large number of other reviews of the school effectiveness literature (see Edmonds 1978; Clark 1980; Austin 1979, 1981; Rutter 1981; Hersh et al. 1981). Our approach differs in three important ways from most of the others. First, our orientation is skeptical. While there has been a general rush to embrace the idea that academically effective schools are within the grasp of society (see, for example Edmonds 1978, 1979(a), 1979(b), 1981(a), 1981(b); Austin 1979, 1981; Hersh et al. 1981) few writers have critically examined the literature.

Second, we use a wider net than most in gathering evidence. We have looked at a variety of forms of school effectiveness research including outlier studies, case studies, surveys and evaluations, at studies of program implementation, and at theories of organization of schools and other institutions. We give particular emphasis to theories and findings about the organization of small organizations and about program implementation which suggest ways of approaching and understanding efforts to change schools.

Third, our analysis is concerned with process as well as content. By content we mean identifiable characteristics of schools and their personnel--these include such variables as the leadership of the

principal and the school's assessment procedures. By process we mean the way that schools actually operate and change. The implementation literature and the few studies of school effectiveness that look at changing schools point out the importance of the process by which people within schools interact to determine goals, conduct everyday business, and accommodate conflict and change (e.g., McLaughlin 1978; Rutter 1981).

II. Review of the current school effectiveness literature

At the moment public discourse on effective schools is dominated by literature reviews and scholarly editorials. These have captured educators' and the public's fancy by reducing a disparate literature to simple recipes for school improvement.

The best known summarizations have been provided by Ron Edmonds now at Michigan State University. Based on his own work and that of other researchers such as Mayeske et al. (1972), Weber (1971), Averch et al. (1972), Brophy and Good (1970), and Brookover (1977), Edmonds lists five ingredients of an "effective" school: strong administrative leadership, high expectations for children's achievement, an orderly atmosphere conducive to learning, an emphasis on basic skill acquisition, and frequent monitoring of pupil progress.

Other reviews have produced somewhat different lists of ingredients (e.g., Austin 1981; Clark 1980; Tomlinson 1980; Phi Delta Kappa 1980; and Hersh et al. 1981. Although there is considerable overlap, these reviews do not always find the same features to be characteristic of effective schools, even when considering basically the same literature.[3] Moreover, the reviews, and most original studies, include no discussion

of how schools might be altered to become more effective, suggesting either that the reviewers are not sure what to recommend or that they think the issue is not important. The latter case implies that the same ingredients mixed into different schools at different points in time will produce similar results. This assumption contradicts a substantial amount of recent literature. It ignores or at least discounts the interplay and "mutual adaptation" (McLaughlin 1978; Elmore 1978, 1979) that exists between a given environment and any plan that seeks to produce change in the environment. A second related issue has to do with the sense these advocates give that change comes easily if only the goal is clear--that weak administrative leaders can become strong; that teachers with low expectations can willy-nilly change their beliefs; that order can be spun easily from chaos.

Finally, these reviews have become incestuous as each in turn is cited as evidence that certain school-level features are responsible for academic effectiveness. For example, in their review Hersh et al. (1981) cite Edmonds' review (1979b) to support their claim that certain factors make schools more effective. Certainly reviews are legitimate sources, but reviews of reviews do not produce conclusive evidence.

In the following discussion we have clustered the studies that have received the most attention in the school effectiveness literature into four groups--outlier studies, case studies, program evaluation studies, and "other" studies. The lack of empirical data in many of the studies precluded us from carrying out any sort of quantitative synthesis. Consequently, each category is described in terms of its general methodology and conclusions (noting relevant differences within each

category), specific weaknesses are noted for each, and a few problems found in the literature as a whole are discussed.

Outlier studies

One major strategy of school effectiveness research has been to statistically determine highly effective schools (positive outliers) and unusually ineffective schools (negative outliers). Though methodological variation exists, most such studies employ regression analyses of school mean achievement scores, controlling student body socioeconomic factors. Based on the regression equation an "expected" mean achievement score is calculated for each school. This "expected" score is subtracted from the actual achievement level of the school to give a "residual" score for each school. The researcher then selects the most positive and the most negative residual scores and labels the schools they represent as unusually effective or ineffective. Characteristics of these two types of schools are then assessed by surveys or case studies to determine the reason for the schools' outcomes.

One drawback of this method is that in equations that are imperfectly fit, by chance, there will be some false positive and negative residual outliers. To meet this problem Klitgaard and Hall (1974) suggest constructing "histograms of the residuals from a regression of school achievement scores on background factors." This would indicate "'lumpiness' in the distribution (and) unusual tails" (p. 95). Assuming an unusual right tail indicates the possibility of unusually effective schools, researchers then would look at the residuals of the same schools calculated for other school years. "A

series of distributions (over many years) showing the same schools with scores consistently some distance above the mean provides fairly strong evidence that those schools are unusual and deserve a closer look" (p. 95).

Studies that have adopted this general approach include four carried out by the New York State Education Department (1974a, 1974b, 1976), a study conducted for the Maryland State Department of Education (Austin 1978), Lezotte, Edmonds and Ratner's study of model cities elementary schools in Detroit (1974), Brookover and Schneider's (1975) study of Michigan elementary schools, and Spartz' study of Delaware schools (1977).

The similarity among these studies is striking in two areas: the means of school identification (four used regression analysis to identify outliers), and the selection of only elementary schools as study sites. Quality and conclusions, however, vary considerably. For example, the first New York study (1974a) found that methods of reading instruction varied greatly between high and low performing schools. A follow-up study (1974b) found the opposite--the method of reading instruction did not appear to make any difference. A third New York study (1976) again found salient differences in classroom instruction, although it did not highlight the same instructional features as the first study. The Maryland study concluded that effective schools are characterized by strong instructional leadership, while Spartz (1977) found that effective schools had principals who emphasized administrative activities. Spartz (1977) identified at least seven general variables relating to achievement. Brookover and Schneider's Michigan study (1975) finds six. Moreover, Brookover does not mention

ability grouping while the Delaware and two of the New York studies consider this a significant feature. Finally, although cited by many in support of various lists of critical factors, we could find no discussion of the substantive findings of the Lezotte et al. (1974) study of model cities schools.

While the studies do correspond in several respects the variations in their findings should serve as a caution to those who would reduce such disparate literature to five or six variables. Similarly, the variation suggests that no variable in particular is crucial. Nonetheless there is some consistency in the results. The more pervasive common elements are: better control or discipline, and high staff expectations for student achievement. Each of these variables shows up in four of the seven studies for which there are data. An emphasis on instructional leadership by the principal or another important staff member was found to be important in three studies. A variety of other variables are found in the studies. Although outlier studies vary in quality, they commonly suffer from the following weaknesses.

(1) Narrow and relatively small samples used for intensive study. Though they generally sift through a fairly large population, the final sample in studies that used a statistical procedure followed by a case study approach ranges from two to twelve schools. The small sample sizes greatly increase the possibility that the characteristics which appear to discriminate between high and low outliers are chance events. False positives are especially likely when large numbers of variables are examined and when criteria for the size of an important difference are not specified prior to looking at the data. The small sample sizes

and lack of representativeness of the samples also raise issues about the generalizability of the results from any one study. On the basis of these studies alone we might make tentative claims about what constitutes an effective lower grade reading program in an urban elementary school with a predominantly low-income and minority student population. The evidence will not take us beyond that with any certainty.

(2) Error in identification of outlier schools: The strength of the outlier approach depends upon the quality of the measures used to partial out the effects of social class and home background. If these measures are weak or inappropriate, differences in school characteristics between high and low outliers will be confounded with student background differences. Two of the studies, the New York State study comparing 148 "positive" schools with 145 "negative" schools (1976) and the Maryland study (Austin 1978), suffer from this problem to such an extent as to render their conclusions meaningless.[4]

(3) Aggregating achievement data at the school level. Airasian et al. (1979) point out that aggregating data at the school level may mask differential effects for specific subgroups of students. Edmonds and Frederiksen (1979) reanalyzed parts of the Coleman et al. (1966) data and found that in some schools different groups of students responded differently to certain school characteristics. Rutter et al. (1979), on the other hand, in a study of twelve schools found that "exemplary" schools were equally effective with different subgroups. Outlier studies like other studies that use school-wide indices may not inform educators on how to make schools more effective for all groups of

children within the same school. None of the outlier studies looked at the achievement levels of different sets of students within the schools.

(4) Inappropriate comparisons. In a brief note Klitgaard and Hall (1974) recommend comparing positive outliers with average schools rather than with negative outliers. We were struck by the tendency of outlier researchers to ignore this good advice. The logic of contrasting high and low schools remains a mystery. By design of the outlier method, most schools are "normal," a few "different" schools are effective, while a few others are "ineffective." The idea is that something has "made" these outliers different--both at the positive end and at the negative end. If negative residuals are pathological in some way so are, in their own way, positive residuals. This takes on practical significance when viewed from the position of attempting a school improvement program. The important differences between "effective" schools and average schools may be very different from the differences between "ineffective" and "effective" schools. Unless schools are capable of making quantum leaps in effectiveness, it will probably not greatly profit a very poor school to compare itself to an exceptionally fine school. None of the studies addresses this issue.

(5) Subjective criteria used for determining school success. Finally, finding statistically unusual schools does not necessarily mean they are "unusually effective" (emphasis in original) since effectiveness "depends on one's subjective scale of magnitude" (Klitgaard and Hall 1974, p. 105). An "unusually effective" school serving predominantly low-income and minority students may actually have considerably lower achievement than a middle class white suburban school. For example, the effective schools described by Armor et al.

(1976) had a median score of 31 compared to the district median of 38. Two reasons for this are the pervasive influences of social class on achievement, and the possibility that even the "typical" suburban school has some significant and important advantages over the relatively effective inner city school. Although an outlier study could be designed to probe this issue, to date none has done so.

Case studies

We carefully studied five school case studies often cited in various school effectiveness reviews (Weber 1971; Venezky and Winfield 1979; Rutter 1979; Brookover et al. 1979; Brookover and Lezotte 1979) and three recent additions to the literature (Glenn 1981; California State Department of Education 1980; Levin and Stark 1981).[5]

The case studies can be generally categorized into two groups. The studies in the first group (Weber, Venezky and Winfield, Glenn, California State Department of Education, Brookover and Lezotte, Levin and Stark) focus on reading and/or math as outcome variables in elementary schools. They tend to describe schools in terms of the discrete characteristics that differentiate successful from unsuccessful schools. The two studies in the other group (Rutter, Brookover et al.) look at outcome variables that, in addition to academic achievement, include student academic self-concept and self-reliance (Brookover) and in-school behavior, attendance, and delinquency (Rutter). Schools are described as social systems and school effects seen as the influence of the overall school climate or ethos. While both groups present substantive findings, we prefer the analytical and conceptual perspective of the latter group, and argue elsewhere in this paper that

it offers a more enlightening and enabling approach to school improvement.

In what has probably become the most widely cited study of school effectiveness other than Coleman et al. (1966), Weber (1971) examined four inner-city "exemplary elementary schools. He posited eight school-wide characteristics that influence reading achievement: (1) strong leadership (in one school it came from an area superintendent), (2) an atmosphere of order, purposefulness and pleasure in learning, (3) a strong emphasis on reading, (4) high expectations, (5) additional reading personnel, (6) use of phonics in the reading program, (7) individualization, and (8) careful evaluation of student progress. Weber's study suffers from a variety of problems, the central two being the lack of a comparison group of less successful schools and the lack of clear definitions for his school characteristics. While Weber's study lacked methodological rigor, it attracted a great deal of attention because of his clear journalistic writing style and optimism about the possibility for school improvement.

The second study in this group (Venezky and Winfield 1979) looked at two otherwise similar "low-income" schools which differed at sixth grade by roughly a grade level in reading achievement. The authors argue that the two primary causes of success in teaching reading are: (1) an achievement orientation by the principal (as opposed to a human relations emphasis) and (2) building-wide instructional efficiency which is a function of instructional adaptability and consistency. The discrepancy between the two studies is not as great as it appears, however, since Venezky and Winfield include other factors more or less

similar to Weber's with the addition of a "cooperative" atmosphere in the school and the importance of staff development.

Glenn's (1981) study and review tends to support these findings. She conducted case studies of four urban elementary schools, all predominantly poor and minority, and a more generalized study of a school system. As in the studies previously cited her findings emphasize the importance of explicit goals (usually on basic skills acquisition), discipline and order in a supportive atmosphere, high expectations for student achievement, and leadership from the principal (though it varies from instructional to "distributive" or administrative leadership). In addition, she suggests that joint planning by the staff, staff development activities, "through-the-grades reading and mathematics programs," and efficient, coordinated scheduling and planning of activities, resources and people contribute to school effectiveness.

The California State Department of Education (1980) conducted a study of Early Childhood Education schools that compared the characteristics of schools in which third grade reading scores were improving (8 schools) with those in which reading scores were decreasing (8 schools). They found that increasing score schools generally exhibited (1) a "general sense of educational purpose," coupled with the knowledge necessary to implement corresponding instructional programs meeting the specific needs of each school; (2) positive leadership, from the building principal or group of teachers, that included the sharing of responsibility for decision-making and implementation, anticipatory planning, etc.; (3) high expectations for student learning; (4) teacher accountability for student performance, and the provision of accurate

information on that performance; (5) ongoing inservice training tied to the instructional program; and (6) a reading curriculum that required mastery of complex reading skills and was integrated with other subject areas as well. Of particular interest was their argument that while these characteristics were common to all the increasing score schools, they operated and interacted in unique ways within each school.

Brookover and Lezotte's (1979) case study of eight elementary schools in Michigan identifies ten characteristics that differentiate schools with increasing fourth grade reading scores from those with decreasing reading scores. This is a frustrating study, however, in that their conclusions are not always consistent with the data given in the text.[6] Editing Brookover and Lezotte's factors the following stand out as characteristics of improving schools: (1) an emphasis on accomplishing reading and math objectives; (2) a belief by most teachers that most students can master basic skills objectives; (3) high expectations for the educational accomplishments of the students; (4) more time spent in direct reading instruction; (5) a less satisfied staff; (6) less overall parent involvement, but more parent-initiated involvement; and (7) compensatory education programs with less emphasis upon paraprofessional staff and involvement of teachers in identifying compensatory education students.

The final study in this group (Levine and Stark 1981), studied the implementation of the Chicago Mastery Learning Reading Program (CMLRP) in three New York elementary schools and one Chicago elementary school. They also examined five urban elementary schools, three in Los Angeles and two in Chicago, which were attempting to improve via "school-wide approaches" (comprehensive curriculum and instruction planning designed

to increase achievement in Title I schools without relying upon "pullout arrangements"). Their descriptions of effective elementary schools suggests that it is possible to increase school-wide math and reading scores by combining individualized strategies with general principles of school effectiveness, innovation implementation, and organizational development. Instructional and organizational "arrangements and processes" common to all (or most) of the improving schools were: (1) coordination of curriculum, instruction and testing to focus on specified objectives achieved through careful planning and staff development; (2) focusing the school on the educational needs of low-achieving students; (3) emphasizing higher-order cognitive skills such as reading comprehension and problem-solving in math; (4) "assured availability of materials and resources necessary for teaching; (5) minimizing "burdensome record-keeping tasks" by designing simple procedures for tracking student and class progress and achievement; (6) coordinating required homework with the math and reading curriculum together with improving the quality of homework assignments and improving parental involvement in students' learning; (7) instructional planning that emphasizes "grade-level decision-making" (and that encourages communication and collaborative planning among grade-level teachers and between adjacent-grade-level teachers) and is supported by building-specific staff development; (8) staff supervision based on outcome data for student achievement in essential skills; (9) comparative monitoring of student progress on a class-by-class basis; and (10) "outstanding administrative leadership" characterized as "supportive of teachers and skilled in providing a structured institutional pattern in which teachers could function effectively," and

willing to "interpret rules in a manner that enhanced rather than reduced...effectiveness..." (p. 56). The authors concluded by stressing the fact that the arrangements and processes listed above "must be meshed with each other (in a consistent fashion) and adapted to the individual school building..." (p. 62).

Each of the six case studies in this group looked at urban elementary schools. The studies varied in quality of methodology and clarity of reporting. Taken together they looked closely at a sum total of 43 schools--an average of a little over seven schools per study. The inherent weaknesses of the case study approach and the tiny samples seem a weak reed upon which to base a movement of school improvement. Yet the commonality of findings among the case studies and their similarity to other kinds of studies increase their credability. Five factors stand out as common to most, but not all, of the six case studies in this group. These are strong leadership by the principal or other staff; high expectations by staff for student achievement; a clear set of goals and emphasis for the school; a school-wide effective staff training; and a system for the monitoring of student progress. An emphasis on order and discipline shows up in two of the studies, and a large number of factors are specific to a single study.

The authors of the final two case studies take a more complex look at the nature of effective schools than do the previous six. Brookover et al. (1979) theorize that student achievement is strongly affected by the school social system, which varies from school to school even within similar subsamples with SES and racial composition controlled. The school social system is said to be composed of three interrelated variables: (1) social inputs (student body composition and other

personnel inputs); (2) social structure (such as school size, open or closed classrooms, etc.); and (3) social climate (school culture as the norms, expectations and feelings about the school held by staff and students). While school social inputs affect academic achievement, they are "modified in the processes of interaction" with the school social structure and school social climate (p. 14). In their analysis of two pairs of public elementary schools (matched in terms of racial composition, mean SES, and urban location--each pair has one high and one low achieving school) Brookover et al. found substantive differences in (1) time spent on instruction; (2) commitment to (and assumed responsibility for) student achievement; (3) use of competitive team games in instruction; (4) expectations for student achievement; (5) ability grouping procedures; (6) use of appropriate reinforcement practices; and (7) the leadership role of the principal. In sum, an effective school is described as one "characterized by high evaluations of students, high expectations, high norms of achievement, with the appropriate patterns of reinforcement and instruction," in which students "acquire a sense of control over their environment and overcome the feelings of futility which . . . characterize the students in many schools" (p. 243).

Their contention that school social climate (and to a lesser extent social structure) makes a significant contribution to achievement when SES and racial composition are controlled is appealing (we will return to this model later). It is important to emphasize, however, that the two high-achieving schools (one white, one black) differed in specific ways. The high-achieving black school emphasized discipline over achievement, without deemphasizing achievement, while the high achieving

white school stressed achievement over discipline. The role of the principal differed in the two types of schools, and instructional grouping practices also varied. This variation suggests that (as Brookover et al. point out) there is no single combination of variables which will produce an effective school. Finally, the mean score of the black school is considerably below both that of the white school and of the state as a whole. While the effective black school may have narrowed the gap, the gap remained.

Rutter's (1979) study stands out in four respects: it is a longitudinal study carried out from 1970-1974; it examines secondary schools; it looks at twelve inner-city schools in London, England; and, it attempts to measure school outcomes in terms of students' in-school behavior, attendance, examination success, and delinquency. Their general argument is that secondary schools vary in outcome in the four areas above, that these variations are associated with the characteristics of schools as "social institutions," and that it is a school's "ethos" that influences students as a group. School ethos includes the "style and quality" of school life, patterns of student and teacher behavior, how students are treated as a group, the management of groups of students within the school, the care and maintenance of buildings and grounds, etc.

More specifically effective schools have a "balanced intake" in terms of the children's academic ability and the families' occupations. Processes in these schools include: (1) classroom management that keeps students actively engaged in learning activities; (2) classrooms in which praise is freely given and discipline applied infrequently but firmly; (3) a general attitude and expectation for academic success,

coupled with specific actions emphasizing those attitudes and expectations; (4) giving a high proportion of students responsibility for personal and school duties and resources; (5) immediate feedback to students on what is acceptable performance at school; (6) staff consensus on the values and aims of the school as a whole; (7) the establishment of clearly recognized principles and guidelines for student behavior; (8) the provision of a clean, comfortable, and maintained physical environment for students; (9) demonstrated staff concern for individual and group student welfare; and (10) the treatment of students in ways that emphasize (and assume) their success and potential for success. Though these variables comprise the school process, their overall effect is to create an ethos leading to better outcomes in the areas of students' in-school behavior, attendance, examination success, and delinquency.

A troubling aspect of Rutter's study, however, is the importance assumed by the "balanced intake" variable. Simply put, this variable indicates that the more effective schools have substantially larger percentages of middle income students than do the less effective schools. If academic achievement, attendance, and delinquency are strongly linked to a balanced intake, then the possibility exists that the significant difference between schools is not in school processes but in school composition. This problem is magnified by the fact that only two of Rutter's twelve schools can be considered to be academically effective.

Finally, it is important to note that while each case study has its particular strengths and weaknesses, as a group, they generally share the five weaknesses of the outlier studies: small and unrepresentative

samples, possible errors in identifying effective schools because of uncontrolled student body characteristics such as social class, achievement data aggregated at the school level, inappropriate comparisons, and the use of subjective criteria in determining school success.

Program evaluations

A third category of school effectiveness research is program evaluation. Many evaluations of educational programs have been carried out over the past fifteen years. In selecting among them our central criterion was that the study reported on the consequences of variation in school-level factors. We looked at six evaluations: Armor et al. (1976), Trisman et al. (1976), Doss and Holley (1982), and three studies carried out by the Michigan Department of Education (Hunter 1979).

Armor et al.'s mandate from the sponsoring agency was to identify "the school and classroom policies and other factors that have been most successful in raising the reading scores of inner-city children" (p. v.) who attended schools participating in the School Preferred Reading Program in the Los Angeles Unified School District. The Trisman et al. study examined reading programs in elementary schools throughout the nation. The researchers surveyed a large number of programs and carefully studied the characteristics of a few schools which had especially successful efforts. Doss and Holley summarize data from an evaluation of Title I programs in Austin, Texas. The three Michigan studies were conducted from 1973-1978 in an attempt to understand what kinds of schools can carry out effective compensatory education programs.

By and large these studies are methodologically stronger than the preceeding two types of research. However, their common findings are remarkably consistent with the outlier and case studies. Armor et al. (N=20 schools) suggest that seven school characteristics are associated with gains in reading performance: (1) teachers' strong sense of efficacy and high expectations for students; (2) maintenance of orderly classrooms; (3) high levels of parent-teacher and parent-principal contact; (4) ongoing inservice training of teachers with topics often determined by teachers, together with frequent informal consultations among teachers in implementing reading programs; and (5) principals who achieve a balance between a strong leadership role for themselves and maximum autonomy for teachers. The similarities in this list (orderliness, high expectations of teachers, principal as instructional leader) to others mentioned elsewhere should not obscure a few real differences that exist. Most salient in this regard is the emphasis on teacher flexibility and relative autonomy together with the importance of teacher-parent contact--factors not often cited by other researchers.

Trisman et al. (1976) examined schools with unusually effective reading programs. Although the researchers looked for curriculum, teacher training, class-size, and teacher characteristic effects, they could find none that explained why certain programs were effective. Instead, they found effective schools to be characterized by strong leadership (usually the principal); high expectations for student achievement; good school atmosphere (including student-teacher rapport); a clear focus on basic skills; small-group instruction; and evidence of interchange of ideas among staff.

Doss and Holley (1982) summarize the results of a Title I evaluation comparing the effectiveness of "school-wide" programs with "pull-out" programs. The "school-wide" programs require the staff to collaboratively develop and implement plans to work with all of the students in a target school. They conclude that school-wide Title I projects directed at altering the way entire classrooms and, by extension, entire schools treat low-achieving students have a greater positive effect on achievement than projects that isolate Title I pupils by "pulling them out" of the regular classroom. The authors also found high morale and a sense of control over the school program by the teachers in schools with school-wide projects. These observations are supported by a variety of literature that suggests that in certain circumstances categorical programs can be divisive influences on the instructional effectiveness of the school (Glass and Smith 1978; Cooley 1981; Rubin and David 1981; Turnbull et al. 1981; Kimbrough and Hill 1981). We should note that the school-wide approach also resulted in significantly smaller classes for students, a factor which may help to explain the achievement differences.

The three Michigan studies were intended to determine the characteristics of schools with effective compensatory education programs. The first study contrasted seventy-five high-achieving schools with sixty-nine low-achieving schools. The second study closely examined eight schools (five high and three low) in an attempt to replicate the earlier effort. The school variables that show up in both studies and characterize effective schools were high teacher morale, clear autonomy of the school from the district, teacher control over instructional decisions, and an effective student assessment system. In

the second study the investigators also looked at a series of variables having to do with the expectations and perceptions of teachers and staff. Consistent with the findings of others (for example, Brookover et al. 1979) they found that high-achieving schools were characterized by high expectations of the staff for the students. In the final Michigan study three schools were selected to receive funds to implement the basic findings from the preceeding work. These schools were compared to three similar schools that did not implement such a program. After one year the experimental schools had modest gains in achievement.

The basic findings from the various program evaluation studies create a generally consistent pattern. Most schools with effective programs are characterized by high staff expectations and morale; a considerable degree of control by the staff over instructional and training decisions in the school; clear leadership from the principle or other instructional figure; clear goals for the school and by a sense of order in the school. This is a familiar list.

Other studies

James Coleman et al.'s (1981) comparative study of public and private secondary schools makes an interesting contribution to the analysis of effective school characteristics. The basic contention of the authors is that private schools are academically superior to public schools. Specifically, private school students' average scores in vocabulary, reading, and math are higher than the average scores of public school students after controlling for background variables; Catholic private schools also show less variation in within-school achievement than do public schools. While the methodology leading to

these conclusions is currently the subject of considerable debate,[7] of particular interest are those features of private schools that are hypothesized as accounting for their academic superiority. The authors suggest that "school functioning makes a difference in achievement outcomes for the average student (p. 223)." On the school level private schools are more likely to exhibit those characteristics that seem to encourage academic performance: better attendance; more homework; more required, rigorous academic subjects; and overall "more extensive academic demands." Private schools are less likely than public schools to possess characteristics thought to harm academic achievement: disruptive behavior (fights, cutting class, threatening teachers, etc.); student perception of discipline as being ineffective and unfair; and student perception of lack of teacher interest in student achievement, behavior, etc. Stated more succinctly, private schools' academic success can be attributed to their making greater academic demands on their students within a school environment which is "safer, more disciplined and more ordered (p. 226)."

We are not persuaded that Coleman et al. adequately controlled for student body composition, for the self-selection aspect of private school enrollment, or for the influence generated by such factors as parents' financial commitment and the greater freedom of private schools to select and expel students. Therefore we make no judgment as to whether private schools as a group are scholastically better than public schools, given the larger size of public schools, their greater, mandated, curriculum diversity, and the wider variety of goals held for public school education. Nevertheless, there is a close correspondence between the characteristics which explain the presumed higher academic

achievement of private schools and several of the characteristics postulated by effective schools researchers as distinguishing effective from ineffective public schools. These findings are also supported by some preliminary analyses by Coleman et al. of differences between successful and unsuccessful public schools. This similarity lends support to the notion that certain school-level characteristics can affect school-wide academic achievement.

NIE's Safe School Study (U.S. Department of Health, Education and Welfare 1978) is concerned with identifying the elements that make schools safe, non-violent, orderly institutions of learning. Though they do not evaluate the academic effectiveness of schools, nor focus on school characteristics that are linked with academic success, many of their findings regarding the difference between safe schools and violent schools are relevant to the discussion of effective schools.

The authors find that school governance is of critical importance in creating safe schools. The central role in school governance is played by the principal. Principals who served as firm disciplinarians, strong behavioral role models (for students and teachers alike), and educational leaders were crucial in making the school safe. Also contributing to school effectiveness in this sense were the following: (1) clearly stated rules, consistently, fairly and firmly enforced; (2) teachers with high job satisfaction who are in general agreement with the principal's "educational and procedural styles;" (3) cohesiveness among teachers; (4) material and moral support from the central administration; (5) emphasis on academic success with individual improvement and achievement rewarded; (6) class size or school organization calculated to increase the "sense of personal relationship"

between student and teacher; (7) high staff morale; (8) strong school spirit; (9) students' belief that school subject matter is relevant and valuable; and (10) students' sense that the "school as a social system is not a meaningless environment (p. 139)" in which they can exert little control over what happens to them.

Schools with these ten characteristics are assumed to be not only safer but generally more successful in other areas of education as well. Pertinent in this regard is the strong relationship indicated in the study between a school's "structure of order" and academic success. Moreover, "one of the measures associated with the turnaround (of a violent school) seems to have been improving the academic program and stressing the importance of academic excellence (p. 169)." The implications of this study for building academically effective schools are intriguing.

III. General critique

Specific criticisms of particular studies and methodologies notwithstanding, and regardless of a number of inconsistencies in findings, there remains an intuitive logic to the findings of the above research. Flaws in the original research should not discredit the notion of discovering effective school characteristics--seeds for school improvement that can be sown elsewhere. However, the opposite approach--blanket acceptance--is equally dangerous.

For example, there has been no systematic sampling of different types of schools. The existing research tends to concentrate on urban elementary schools with successful reading and/or math programs in the lower grades. Given that, the generalizability of the research is

limited. It is one thing to demand that all schools be effective; it is an entirely different matter to assume, without further research, that what has effects in one setting will invariably have the same effects in another. There is also a dearth of longitudinal studies. It is not clear that an effective school snapshot taken of a third grade class' reading scores will look the same when that class is in the sixth or eighth grade. Similarly, though a few studies control for random variations by examining school-wide achievement scores for several years prior to the beginning of the study, it is again not clear that a designated effective school will remain so in the future--or was in the past. Any cutoff line is arbitrary but it seems reasonable and prudent to expect an effective school to be so historically and to remain effective in the future before raising the banner of success over its doors. Nor have researchers examined schools that are systematically trying to improve. Teachers' sense of efficacy and competence may be associated with student achievement, but (a) what causes teachers to feel efficacious and competent and (b) how does this influence student learning all other things being equal?

Finally, the implicit assumption of the reviews of the literature and the press seems to be that once aware of a set of five, or seven or twelve key variables, schools can simply decide to adopt them. (The further implication is politically loaded: schools that do not acquire these variables lack the "will" or "desire" to effectively instruct all their students.) Even if these "easy to assemble model" variables were necessary for effective schools, they would not be sufficient. They are not sufficient because the history of education reform demonstrates that no matter how well-planned, systematic interventions in schools are not

always successful either in form or outcome (Berman and McLaughlin 1977; Elmore 1978, 1979). In fact, current theories of school organization suggest that there are structural and procedural characteristics of schools that mitigate against this sort of top down change. For example, if schools are indeed "loosely coupled" systems (Weick 1976), having weak linkage between administration levels and the relatively autonomous classroom, then notions of effectiveness that depend on strong and dogmatic administrative leadership are immediately handicapped.

Having expressed our reservations about the available research and writing on school effectiveness, we nevertheless find a substantive case emerging from the literature. There is a good deal of common sense to the notion that a school is more likely to have relatively high reading or math scores if the staff agree to emphasize those subjects, are serious and purposeful about the task of teaching, expect students to learn, and create a safe and comfortable environment in which students accurately perceive the school's expectations for academic success and come to share them. Such a mixture of characteristics creates a climate that would encourage, if not guarantee, success in any endeavor from teaching dance, to building a winning football team, to improving children's knowledge of American history.

The intuitive logic behind this press for achievement is buttressed by research on effective classrooms (Rosenshine and Stevens 1981; Good and Grouws 1979) that suggests that these classrooms (i.e., where students learn math) are characterized by order, structure, purposefulness, a humane atmosphere, and the use of appropriate instructional techniques. Extrapolating upward it is reasonable to

assume that schools displaying similar characteristics would tend to promote school-wide student achievement. Obviously there is a reciprocal relationship between the classroom and the school. But it is probably easier for the school to influence all its classrooms than it is for a few classrooms to influence the entire school (particularly at the secondary level).

Finally, this notion fits rather nicely with a more historical perspective on schooling. If declining national test scores are indicative of changes in the nature of schooling during the past decade, then a partial return to yesteryear may be more than an exercise in nostalgia. Tomlinson (1981) argues that traditional ideas and methods persisted, perhaps, because they worked. Indeed, there is a remarkable and somewhat disturbing resemblance between the traditional view of schools as serious, work-oriented, and disciplined institutions where students were supposed to learn their 3 R's, and the emerging view of modern effective schools. Certainly, however, we can learn from the past and take what seems appropriate without copying the more unsavory features.

Thus we are not arguing that the current research on effective schools is useless or irrelevant. School personnel wanting to improve the academic achievement of their pupils would be well advised to read the current literature for whatever is of use in their specific social situation and cultural context. However, adoption of the characteristics suggested by this review or by others is unlikely to work in all schools, may not work as expected in many schools, and may, in fact, be counterproductive in some schools. The existing reviews provide lists of ingredients, and rather divergent ingredients at that.

What is missing and what we now turn to are instructions, or at least suggestions, on how to put the ingredients together. Unfortunately, we are not guided by systematic research on the development of effective schools. There is research, however, which suggests alternative ways of approaching the problem and which begins to provide the missing directions.

IV. Toward a theory of school improvement--the importance of the culture of the school

A different approach to school improvement than the recipe model rests upon a conception of schools which links content with process to arrive at a notion of school culture (Rutter 1979; Brookover et al. 1979). Content refers to such things as the organizational structure, roles, norms, values and instructional techniques of a school and the information taught in the curriculum. School process refers to the nature and style of political-social relationships and to the flow of information within communication networks. A school culture perspective rejects the view that schools are relatively static constructs of discrete variables. Instead, schools are thought to be dynamic social systems made up of interrelated factors (Brookover et al. 1979). This mix of interconnected characteristics is unique to each school and provides each with a definite personality or climate (Halpin and Croft 1963). It is a school's culture resulting in a distinct climate composed of attitudes, behaviors, organizational structure, etc., that is influential in determining the school's effectiveness.

In a sense the cultural notion of school effectiveness is an ecological model. Schools are intricate webs of values, roles, rules,

norms, individual personalities and so on. Just as a water lily does not make a pond, nor make a pond function, so too do "high expectations" not make a school nor make it function. Continuing the metaphor, while all ponds are superficially alike, owning to the limits imposed upon them by the larger environment in which they exist, no two exactly resemble each other. In the same manner schools are shaped by the cultural environment in which they exist. This in turn, shapes what happens in the classroom even as each classroom creates its own personality.

More concretely, the literature indicates that a student's chance for success in learning cognitive skills is heavily influenced by the climate of the school (Brookover et al. 1979; Rutter et al. 1979, Rutter 1981; Wynne 1980). A school-level cultural press in the direction of academic achievement helps shape the environment (climate) in which the student learns. An academically effective school would be likely to have clear goals related to student achievement, teacher and parents with high expectations and a structure designed to maximize opportunities for students to learn. A press for academic success is more likely to realize that goal than would a climate which emphasizes affective growth or social development.

If the climate of a school can positively affect student achievement, the question then becomes how to develop a desired climate. How does one school have teachers with high expectations for achievement while another does not? Why does one school have clear goals while a second muddles through with conflicting ideas of success? Unfortunately, available research does not yet provide a complete answer. Most current school effectiveness research lists a variety of

potential ingredients but offers little direction for mixing them together. However, imagining schools as living cultures does suggest a framework for understanding the problem and the outline of how to move toward a solution.

The fluidity and interconnectedness of the school culture conceptualization directs attention to the process by which a given school climate comes into being and is maintained. The components of a school exist in a rough equilibrium. Intervention in any dimension "puts pressure on the others and affects the equilibrium" (Derr and Deal 1979). Therefore, school improvement is seen as likely when the whole school is treated, with special attention paid to people's attitudes (Rutter 1981) and how people interact with one another and the environment.

The appropriateness of the school culture notion is supported by ideas derived from organization theory and from research on the implementation of education innovation. Recent research and theory have rejected a notion of schools as classical bureaucracies, hierarchically structured, susceptible to rational control and with high responsiveness at the lowest level (the classroom) to the goals set by the administration. A competing and more persuasive description of schools is that they are "loosely coupled systems" in which the work of the teachers is largely independent of the principal's immediate supervision (Weick 1976; March and Olsen 1976).[8] Classrooms are isolated workplaces subject to little organizational control (Meyer and Rowan 1978; Bidwell 1965; Dreeban 1973; Lortie 1975) where teaching and learning are relatively free of "serious" evaluation (Dornbush and Scott 1975). Finally, the "technology" of education is relatively soft,[9] which works

against efforts to standardize tasks and behavior in very specific ways. Combining this with the range of goals imposed on schools by society prevents the kind of "profitability check" on teacher behavior available to organizations with less diffuse technology and more narrowly defined goals (Derr and Deal 1979).

If schools are indeed "loosely coupled" in the above manner, then attempts to increase their effectiveness through imposing discrete policies by fiat are unlikely to bear fruit. Schools by their nature may not prove amenable to command structure approaches, especially given the vested interests of the various groups of relatively autonomous professionals involved in the day-to-day operation of a school. Furthermore, teachers may not agree with the principal (or with each other) on essential variables and the recipe models say nothing about overcoming or avoiding that resistance.

The school culture model begins to resolve the dilemma posed by loose coupling. It assumes that changing schools requires changing people, their behaviors and attitudes, as well as school organization and norms. It assumes that consensus among the staff of a school is more powerful than overt control, without ignoring the need for leadership. Indeed, consensus emerges as a key factor in the school culture model. Building consensus around specified norms and goals becomes the focus of any school improvement strategy.

Studies of implementation efforts reinforce the validity of the school culture perspective and highlight the importance of forging consensus in the process of improving schools. Of particular importance is the fact that change (and presumably maintenance thereafter) will not take place without the support and commitment of teachers who must come

to "own" new educational ideology and techniques (McLaughlin 1978). Implementation "is substantially determined by the coping behavior of those who have to carry out the . . . (change)" (Weatherley and Lipsky 1978). And given the relative autonomy enjoyed by teachers, it is only logical to assume that they ultimately control the fate of efforts to alter a school's instructional climate and process.

Major innovations have been successfully implemented, however, and the characteristics of schools where change has occurred are illuminating. According to McLaughlin (1978), successful implementation is a process of "mutual adaptation" which is a "learning process," the end result of which is the close fit of an innovation with a specific institution. Central to this developmental perspective is the belief that changing schools requires changing people's way of doing things (California State Department of Education 1980) and changing the informal social system of the school (Sarason 1973). In essence successful implementation means changing the school culture, the wholesale influencing of the total school climate (Hargrove et al. 1981).

Though specific tactics may vary, the general strategy is best characterized as one that promotes collaborative planning, collegial work, and a school atmosphere conducive to experimentation and evaluation (Little 1981; Deal et al. 1977; Hargrove et al. 1981; Hawley 1978; McLaughlin 1978). Miller (1980) suggests it is an approach that sees teachers as part of an entire school organization engaged in development activities that take place over time. Successful change efforts are therefore more likely to be realized when the entire school culture is affected. This on-going activity is best done by involving

the people affected, at appropriate levels and frequency, in the decision-making and implementation process (Lipham 1981). Leadership from the principal or key instructional staff is an important variable (Neale 1981; Berman and McLaughlin 1977; Goodlad 1975; Bentzen 1974; Deal et al. 1977; Hargrove et al. 1981; Rubin and David 1981). At the secondary level the leadership may be best exercised through influence (Neale 1981) and informal authority (Deal et al. 1977), with reciprocal interactions between teachers and administrators (Little 1981). At the elementary level a more directive system from a strong instructional leader may be viable. When change is successful it is because schools are approached as cultural entities. Change is seen as developmental, linked to teacher concerns, and fostered (not mandated) by leadership which recognizes the importance of concrete and symbolic support of teachers and the motivating force of a teacher's sense of efficacy in the classroom (Lieberman and Miller 1981).

The literatures on school organization and innovation implementation lend strength to the school culture approach to improving academic achievement. Both bodies of literature question the implicit assumptions of the recipe model, particularly its bureaucratic and static conception of schools. Both stress the importance of acknowledging the interplay of factors which compose the school culture and emphasize the need to address all facets of the school when attempting change. Finally, both underline the significance of consensus in making schools effective and suggest ways of forging that consensus in the real world of public education.

V. A portrait of an effective school

So far we have argued that an academically effective school is distinguished by its culture: a structure, process and climate of values and norms which channel staff and students in the direction of successful teaching and learning. In that regard we lean in the direction indicated by the research of Rutter (1979) and Brookover et al.(1979). The lists of effective school characteristics compiled by other researchers and reviewers are also helpful to the extent that they have captured those factors which are likely to have cumulative impact on pupils' achievement. Finally, we have turned to school organization theory and the literature on implementation to support the idea that the nature of the process of building consensus is a key to improving schools.

Picking our way through the information contained in the effective schools research, we have composed a portrait of an effective school. There are two assumptions which are essential to understanding this portrait. First, however life-like it appears, a portrait can only be a one-dimensional representation of reality. Our portrait of an effective school, then, can only imperfectly suggest the dynamic social system that is a school. Also, portraits of the same person by different artists with equal skill and talent are never identical. We are confident that the effective school sketched below would be recognizable in many contexts, but it surely does not represent all effective schools. Second, and most importantly, we stress that an effective school results from its particular culture, which stems, though not exclusively, from the interplay between form and content.

The explanation offered for concentrating on school-level factors was that they set the stage for what goes on in the classroom. We described school systems as "nested layers" in which the outer (school) layer sets the context for the adjacent (classroom) layer. The relationship between the layers is reciprocal, though basic limits are imposed by the outer layers. This same notion may be helpful in describing the components of an effective school. While the variables are interdependent, certain ones seem logically to form a framework within which the others function. The framework or first group is comprised of organizational and structural variables which can be set into place by administrative and bureaucratic means. They precede and facilitate the development of the second group of variables. The second group can be labelled, somewhat loosely, as process-form variables. They have to do with the climate and culture of the school--characteristics that need to grow organically in a school and are not directly susceptible to bureaucratic manipulation.

These two sets of characteristics are drawn from the lists of key variables found in the effective schools research, from implemention and school organization theory and research, and from other related literature. Acknowledging the possibility that we have omitted critical variables, the most important organization-structure characteristics seem to be the following:

(1) School-site management. A number of studies indicate the need for a considerable amount of autonomy for each building in determining the exact means by which they address the problem of increasing academic performance (see Hunter 1979). This flows from the emphasis on school-specific culture (Rutter 1979, 1981; Brookover et al. 1979) and the analysis of what facilitates the adaptive implementation of innovation (Hargrove et al. 1981; Berman and McLaughlin 1977).

(2) Leadership. Though we are suspicious of the "Great Principal" theory, it seems clear that leadership is necessary to initiate and maintain the improvement process. (Weber 1971; Armor et al. 1976; Brookover and Lezotte 1979; Trisman et al. 1977; New York State Department of Education 1974(a), 1974(b); Venezky and Winfield 1979; Glenn 1981; Berman and McLaughlin 1977; Hargrove, et al. 1981; Levine and Stark 1981; California State Department of Education 1980). The principal is uniquely positioned to fill this role and certainly his/her support is essential very early on (California State Department of Education 1980). Nevertheless, groups of teachers or other administrators can provide leadership. We would argue, though there is little evidence on the subject, that school effectiveness is likely to be enhanced to the extent that substantive leadership does arise from within the ranks of teachers. Staff-based leadership could more readily reduce teacher opposition to change, generate a greater sense of teacher "ownership" toward new methods, etc. More importantly, however, it seems likely to provide more stability and continuity. Successful principals seem to be promoted or transferred to other trouble spots while the staff remains more or less intact. Leadership from below may be more lasting as schools presently exist. Promoting leadership in a school is not a simple task. One strategy that a central administrator might use is to move into a school a proven leader-administrator. This has obvious drawbacks, however. A second strategy is to introduce a process that requires that either the principal exert instructional leadership or that a teacher emerge as a leader.

(3) Staff stability. Once a school experiences success, keeping the staff together seems to maintain, and promote further, success (U. S. Department of Health, Education and Welfare, The Safe School Study 1978; New York State Department of Education 1974(b)). Frequent transfers are destructive and likely to retard, if not prevent, the growth of a coherent and on-going school personality.

(4) Curriculum articulation and organization. At the secondary level a planned, purposeful diet of courses seems to be academically more nutritional than the smorgasbord approach of many electives and few requirements. If students are expected to learn science, math, and/or U.S. History, then they need to take those courses (Coleman 1981; Walker and Schaffarzick 1974). At the elementary level if students are expected to acquire basic and complex skills, the curriculum must focus on these skills (Weber 1971; Armor et al.1976; Glenn 1981; Trisman et al. 1977; Venezky and Winfield 1979)) they must receive sufficient time for instruction in those skills (Fisher et al. 1980), and those skills must be coordinated across grade levels (Levine and Stark 1981) and pervade the entire curriculum (California State Department of Education 1980; New York State Department of Education 1974(b)).

(5) Staff Development. Essential change involves altering people's attitudes and behaviors as well as providing them with new skills and techniques. In order to influence an entire school the staff development should be school-wide rather than specific to

individual teachers and should be closely related to the instructional program of the school (Venezky and Winfield 1979; California State Department of Education 1980; Glenn 1981; Armor et al. 1976; Levine and Stark 1981). This effort is incremental and requires long-term support and reinforcement (Armor et al. 1976). It seems likely that staff development presented as a form of remediation for teachers deficient in certain skills or attributes (a common implication in current practice) will encounter resistance. More appropriately staff development should flow from the expressed needs of teachers revealed as part of the process of collaborative planning and collegial relationships.

(6) Parental involvement and support. Though the evidence is more mixed here, it is reasonable to assume that parents need to be informed of school goals and student responsibilities especially with regard to homework. A few studies find parental involvement and support to be a major factor in student achievement (New York State Department of Education 1974(b); Armor et al. 1976; Coleman et al. 1981; Levine and Stark 1981). Our feeling is that parent involvement is not sufficient, but that obtaining parental support is likely to positively influence student achievement.

(7) School-wide recognition of academic success. A school's culture is partially reflected in its ceremonies, its symbols, and the accomplishments it chooses to officially recognize. Schools which make a point of publicly honoring academic achievement and stressing its importance through the appropriate use of symbols, ceremonies and the like encourage students to adopt similar norms and values (Wynne 1980; Brookover et al. 1979; Brookover and Lezotte 1979; Coleman 1961).[10]

(8) Maximized learning time. If schools choose to emphasize academics, then a greater portion of the school day would be devoted to academic subjects (Coleman 1981) a greater portion of the class period would engage students in active learning activities (Fisher et al. 1980; Brookover et al. 1979) and class periods would be free from interruptions by the loudspeaker, messages from the counseling office, or disruptions from the hall or yard outside (Stallings 1981; Fisher et al. 1980). Staff training might well be in the areas of classroom management and direct instruction.

(9) District support. Fundamental change, building-level management, staff stability, etc. all depend upon support from the district office. Few, if any, of the variables found to be significant are likely to be realized without district support. (California State Department of Education 1980; Hersh et al. 1981; U.S. Department of Health, Education and Welfare, The Safe School Study 1978). While specialized help in some areas such as reading or mainstreaming seems helpful (Hargrove et al. 1981), the role of the district office is probably best conceived as guiding and helping. Hostile, perhaps even indifferent, attitudes by the

district office toward school improvement programs reduce the likelihood of their being successful.

These nine organization-structure factors, in addition to being of consequence on their own, set the stage for the process-form variables. Though the relationship between the two types is reciprocal (and the demarcation between the two types not always distinct), the process-form variables seem more likely to develop in schools characterized by those nine elements. We are not aware of research which closely and systematically examines the interaction between the two types of factors. Nevertheless, as we discuss the process-form variables the logical connection between the two and, also, the logical order--the above nine preparing the way for those to follow--should be evident.

Four process-form variables define the general concept of School culture and climate (Brookover et al. 1979; Brookover and Lazotte 1979; Rutter 1979). A school's culture, or more specifically its climate, seems to be the determining factor in its success or failure as a place of learning. While the four variables are elements in this culture, two additional points must be made: school cultures can vary and still be academically effective; and, an effective culture can lead to goals other than academic achievement (i.e., a school could choose to improve interpersonal relations or promote skills other than academic ones). The sustaining characteristics of a productive school culture seem to be:[11]

(1) Collaborative planning and collegial relationships. (Little 1981; Hargrove et al. 1981; Berman and McLaughlin 1977; Armor et al. 1976; New York State Department of Education 1974(b); Glenn 1981; Trisman et al. 1977; Deal et al. 1977). Directly concerned with process, this variable comes both from school effectiveness research and from implementation research which suggests that change attempts are more successful when teachers and administrators work together. Collegiality serves many purposes. Chief among them are that it breaks down barriers between

departments and among teachers/administrators, it encourages the kind of intellectual sharing that can lead to consensus, and it promotes feelings of unity and commonality among the staff.

(2) Sense of community. (Newmann 1981; Wynne 1980). There is persuasive evidence that community feeling, the sense of being a recognizable member of a supportive and clearly perceived (by the staff and others) community, contributes to reduced alienation and increased achievement. There is also evidence that schools can create or build community by the appropriate use of ceremony, symbols, rules (i.e., dress code), and the like.

(3) Clear goals and high expectations commonly shared. (Brookover et al. 1979; Brookover and Schneider 1975; Armor et al. 1975; Trisman et al. 1977; Venezky and Winfield 1979; New York State Department of Education 1974(b), 1976; Rutter 1979; Weber 1971; Glenn 1981; Brookover and Lezotte 1979; California State Department of Education 1980). Common sense, if nothing else, indicates that a clearly defined purpose is necessary for any endeavor hoping of success. Within the limits imposed by the common public school philosophy, schools need to focus on those tasks they deem most important. This allows the school to direct its resources and shape its functioning toward the realization of those goals. Continual monitoring of individual pupil and classroom progress is a logical means of determining if the school's goals are being realized and can serve to stimulate and direct staff energy and attention (Levine and Stark 1981; see also Edmonds 1981(b)). Newmann (1981) suggests that having clearly defined and limited goals would reduce student alienation, an all too common barrier to increased effectiveness in any area of schooling. Academically successful schools are also characterized by the expectations of the staff and students. In all cases these expectations were for work and achievement. Finally, schools that reach consensus on their goals and expectations are more likely to be successful--in a sense they have channeled their energy and efforts toward a mutually agreed upon purpose.

(4) Order and discipline. (Brookover et al. 1979; Weber 1971; Glenn 1981; Rutter 1979, 1981; Armor et al. 1976; New York State Department of Education 1974(a), 1974(b), 1976; Edmonds 1979, 1981; Stallings 1978; Coleman 1981; U.S. Department of Health, Education and Welfare, The Safe School Study 1978). The seriousness and purposefulness with which the school approaches its task is communicated by the order and discipline it maintains in its building. Again, common sense alone suggests that students cannot learn in an environment that is noisy, distracting or unsafe. Furthermore, some evidence exists indicating that clear, reasonable rules, fairly and consistently enforced, not only can reduce behavior problems that interfere with learning but also can promote feelings of pride and responsibility in the school community.

At the risk of belaboring the issue, we want to once more stress the strong relationships between the four process-learning variables and the nine organization-structure variables. In addition, the four process-form variables are inextricably intertwined with each other. While we do not claim they are inseparable or that the absence of one prevents the others from having a positive impact, it does seem reasonable to argue that their cumulative effect is greatly increased over their effect individually or in combinations of two or three.

A final few comments must be made about the four factors that constitute the process-form variables. These variables are the dynamic of the school; that is, they seem responsible for an atmosphere that leads to increased student achievement. While it is conceivable that they could be realized by a number of means, we expect that it would be difficult to plant them in schools from without or to command them into existence by administrative fiat. Within the framework discussed above the process-form characteristics must develop over time as people begin to think and behave in new ways. The process is certainly not mystical nor terribly complex, but it would seem to demand an organic conception of schools and some faith in people's ability to work together toward common ends. This, in turn, suggests a participatory approach based on the notion that <u>how</u> a school moves toward increasing effectiveness is critical. How a school changes will determine the stability and longevity of the new culture it seeks. (At the same time the process through which a school transforms itself should have some effect on those unanticipated consequences of change which can undermine even the best of plans.)

It seems evident, then, that the process-form variables will be more difficult to acquire than the nine organization-structure characteristics. The process-form variables are diffuse to the extent that their nature will vary somewhat from school to school. While it is easy to define them forecasting what each will look like in a given school is more difficult. Moreover, their sensitivity to the means-ends relationship emphasizes the role of process, unique to each school, in determining their final form.

A cultural approach to school improvement that pays particular attention to the characteristics described above has the advantage of being equally applicable to elementary and secondary schools. Indeed, the large differences between elementary and secondary schools in the general areas of student population, school structure, and curriculum require a cultural perspective on school effectiveness. While recipe models are limited by their narrow reliance on studies of effective urban elementary schools, and by their overly simplistic notions of school organization and change, a cultural approach is flexible, school (and community) specific, and is based upon the commonalities of schools suggested by organizational theory and implementation research. The logic of the cultural model is such that it points to increasing the organizational effectiveness of a school building, and is neither grade level nor curriculum specific. Certainly the greater complexity and size of secondary schools indicates that attempts to change their culture will prove more difficult and the greater diversity of secondary schools' socially mandated goals further complicates efforts to improve academic effectiveness. However, research by Rutter (1979), Coleman (1981), Hargrove et al. (1981), U.S. Department of Health, Education and

Welfare (The Safe School Study 1981) and others suggests that the culture of secondary schools can be manipulated to promote academic effectiveness, and the same research suggests that effective schools in one area tended to be effective in other areas (a theme often repeated throughout the effective schools research, though unfortunately supporting data is generally not provided).

VI. Toward a strategy for change

There are many possible approaches to turning an academically inferior school into a more successful one. One approach is based on a tightly structured hierarchical model in which change is decreed from the top (the district or at least the principal). There are a good many places where such an approach might be effective in altering the structure and form of a school so that it at least appears to be "effective." Administrative fiat can announce clear goals, organize planning meetings, and institute model evaluation systems. There are other places where such direction may be absolutely critical to upsetting an otherwise firmly established pattern of "ineffective" operation. Our sense, however, is that there are few schools where mandated changes will be enough to encourage the development of a productive school climate and culture. Our view is that most successful school change efforts will be messier and more idiosyncratic than systematic.

Certainly leadership is necessary, particularly in the initiating phase. A forceful principal or other administrator would be an advantage, but clearly leadership could also come from a "critical mass" of teachers or a few influential ones with sufficient energy and vision

(Berman and McLaughlin 1977; Stallings 1981; California State Department of Education 1980). At the very least the school administration must be supportive, however passively, of the change process. Active hostility seems likely to prevent leadership arising from any other groups within the school.

One way of thinking about the change process is to analyze a school's political structure, identifying various interest groups which form that structure (Pfeffer 1981; see also Miles 1981). Since the intent is to alter the culture of the school (Brookover et al. 1979.; Rutter et al. 1979; Rutter 1981; Wynne 1980; Sarason 1971; Hargrove et al. 1981) a political strategy which builds coalitions of support might be indicated (Hargrove et al. 1981). As a first step all or some substantial subset of the nine organization-structure characteristics discussed above would be instituted by the school and district leadership. These elements would establish a framework for the development and nurturing of an effective school culture. The framework creates a context in which implementation becomes a process of political bargaining. Such a process could begin, for example, by developing collaborative strategies with the teacher union to maintain a stable staff in a particular school. (See Johnson's, 1982, ideas on "cooperative problem-solving" and "principled negotiations" between teacher unions and school administrators on the issue of lay-off policy.) As another example extra resources necessary to establish order in the halls, a larger budget for supplies, or release time for planning might have to be forthcoming to gain administrator and teacher assent to lengthen the instructional time during the week by two or three hours. Although the first step of this process is characterized

by political and social exchange (Talbert 1980), the purpose is to lay the groundwork for developing a sense of ownership, commitment and general consensus among the staff of the school. This second step would be facilitated by the use of discussion groups, faculty meetings, and inservice programs directed at working through school-wide problems. (District support could greatly facilitate this process by offering release time for such gatherings.)

Involving all relevant groups in the change and decision-making process increases the likelihood of successful implementation of new ideas and programs (Berman and McLaughlin 1977; Elmore 1978, 1979). Part of the purpose is to generate an ethos which results in the voluntary merging of organizational and individual work-place beliefs and norms--a situation in which overt control (tightly-coupled, hierarchical) is replaced by consensus. The four process-form characteristics gain potency to the extent that the staff coalesce around common goals and share a pedagogical perspective that recognizes the importance of such things as order, purposefulness, and commitment to increasing student achievement. Bargaining, collaborating and participatory decision-making on a collegial basis are the means by which the above consensus could develop over time.

A problem arises, however, if individual staff members, or groups, refuse to be persuaded and consistently act in ways which undermine or oppose the goal of increased academic effectiveness. Latitude in teaching style and even in content taught is absolutely necessary for schools to be responsive to individual teacher and student needs and dispositions. Still, consensus, unity of purpose, etc., are prerequisites of an effective school. While it is beyond the scope of

this paper to do more than acknowledge this potential dilemma, one comment is in order. Collective bargaining limitations not withstanding, teachers and administrators who cannot or will not strive for academic success on the part of every student have no place in schools that choose (and not all will, or should) to stress learning cognitive skills. We vehemently oppose policies designed to force people who are not demonstrably incompetent out of teaching. Provisions must be made, however, and negotiated agreements reached with teacher and administrator organizations allowing for staff selection at the building level. Without the flexibility to assemble a staff reflecting a specific orientation (again, within limits), school improvement efforts will be frustrated.

VII. A future agenda

What is to be done? In raising criticisms of existing research and suggesting a conception of effectiveness based on school culture, we have uncovered areas demanding further research. Most obvious is the need for longitudinal studies in a variety of schools which track school and student performance over time. Other questions in this area include: Are different strategies required for low achieving schools (to raise their scores) than for high achieving schools which are beginning to decline? Once a school is deemed academically effective, what is needed to maintain its success? Will demographic change in a school district or cultural evolution in the larger society require corresponding reforms in an effective school in order for it to maintain its equilibrium? How do different improvement strategies affect subpopulations in a school?

A second area of inquiry should involve a fuller investigation of the process by which schools increase (decrease or maintain) effectiveness. The emphasis on culture as a dynamic process still leaves only a hazy idea of just how various elements (characteristics) are mixed together to produce effective schools across the full range of school types in the United States. How is consensus about goals created in a school which has experienced only disunity and fragmentation before? What is the nature of the interactions between leadership and the rest of the staff? How are clearly defined goals (once determined) translated into teaching methods that will realize those goals? In what manner does consensus and clearly defined goals co-exist which choice in curriculum and instruction and the divergent needs of students and parents? How long can consensus last? What methodology, in fact, is best suited to studying process?

Another area, closely related to that of process, has to do with actual implementation. There is a research gap in the area of current school improvement programs. Though a number of districts have begun projects based on one or another of the effective school models, information is lacking on the procedures followed, the obstacles encountered, and the results (both intended and unintended) obtained.

Finally, as Clune (1982) points out, school effectiveness literature provides for "goal definition" (what schools are to be like in order to be effective) and suggests strategies for change based on organizational and implementation theory. Less clear, however, are the intermediate steps of "goal specification" and "problem diagnosis." Goal specification involves, for example, explaining as exactly as possible what leadership entails. Research by Gerstan et al. (1982)

into the specific support functions that must be provided by administrators or supervisors in order for instructionally effective practices to be implemented and institutionalized is a helpful step in this direction, but clearly more such research is needed. Program diagnosis includes analyzing why certain characteristics are not now in schools. For example, while the implementation literature underlines the necessity of teachers coming to "own" new teaching techniques, school effectiveness literature rarely explains why teachers often do not invest in the ownership of new instructional technology; nor does school effectiveness literature often try to explain why schools do not adopt clear and narrowly defined goals, promote collaboration and collegiality, etc. More knowledge as to why schools do not now have certain characteristics would improve administrators' ability to plan successful change strategies.

Other topics are more philosophical or definitional but of no less interest. The publicity attending current effective schools research has obscured the almost casual acceptance of the definition of an effective school as being one in which students score high on standardized reading and math tests. Should school effectiveness be so defined? Is a school effective if there is great variance between its lowest and its highest achieving students? Finally, what effect would an effective schools program have on the quality of student life in the school, on the "hidden curriculum" of the school, and on the nature of teacher's work in the school?

In conclusion, we have argued that school-level factors can promote learning in the classroom. By studying academically effective schools we can identify characteristics which together create a school culture

conducive to student achievement. However, in attempting to build more effective schools we must abandon our reliance upon facile solutions and the assumption that fundamental change can be brought about from the top down. Instead, a more promising notion rests upon the conception of schools as functioning social systems with distinctive cultures. This culture is amenable to change via faculty-administration collaboration and shared decision-making. It has been strongly argued that the process by which schools are made more academically effective is crucial. We have offered a political approach to beginning the improvement process which recognizes people's tendency to operate on the basis of their perceived self-interest as well as on their professional desire to educate children. Finally, we have suggested areas for further research and raised a few of the more abstract questions which must be addressed sooner or later.

FOOTNOTES

[1]It is easy to conclude that the findings of the new research contradict the findings of Coleman et al. (1966), Jencks et al. (1972) and others. In fact the results are consistent though the implications may differ. First, the new studies do not refute the general finding that easily measurable differences among schools (class size variation from twenty to thirty pupils, existing differences in teacher preservice training, teacher experience and salaries, number of books in the library, etc.) have little consistent relationship to student achievement. The new studies look at other variables. Second, the new studies do not find that there are overall large differences in achievement among existing schools. The new studies generally do not gather data of the sort required for such analyses. Instead they identify especially "good" schools and examine their characteristics or they compare the characteristics of "high" scoring and "low" scoring schools. They then imagine the improvement that would result, for example, if the least "effective" schools (the bottom 20 percent) improved to an achievement level equal to the most "effective" schools (the top 20 percent). For the average sixth grader the "old literature" estimates that this improvement would be on the order of two-thirds of a standard deviation or roughly one full grade level of achievement (see Jencks et al., pp. 123-124). This estimate is consistent with the few "new" studies which report sufficient data to allow us to make a quantitative estimate of the achievement difference between "effective"

and "ineffective" schools. Third, the new studies imagine changes in schools that go beyond existing differences among schools. If our very best schools improve they will set a new standard for other schools to achieve.

[2]An example would be running the school in such a way that the sanctity of the class period was seldom violated by PA announcements, early dismissals for athletics or uninvited visitors from the office or counseling center (Stallings 1981). Or, suppose that classroom discipline or good management is a necessary, though not sufficient, prerequisite for learning for most students (Duffy 1980). Just as order in the corridors is enhanced by order in the classroom (Glenn 1981; Stallings and Hentzell 1978), control is difficult to maintain behind a classroom door if the halls, lunch room, bathrooms and other classrooms are in bedlam. Since we are concerned with making entire schools, not merely scattered classrooms touching some small fraction of the student body, more successful it is logical to treat the school as a whole entity. Only when the school functions to promote the chance of efficient learning being able to take place within the classroom can classroom or teacher-specific interventions have much probability of succeeding.

[3]For example, Tomlinson (1980) agrees with Edmonds that a common purpose and clear goals together with instructional leadership from the principal contribute to school effectiveness. He differs, however, in adding (among others) efficient use of classroom time and using parents or aides to help keep children on task. Austin's (1979, 1981) twenty-nine characteristics include some which are similar to Edmonds' (1979(a), 1979(b), 1981(a)) five but also such characteristics as

principals who have an education as elementary school teachers and who recruit their own staffs, experienced teachers who have achieved employment status and schools which encourage direct instruction. The Phi Delta Kappa review suggests that factors such as reducing the adult/child ratio, fostering high levels of parental contact and involvement, and goal specific staff development programs be added to the list of effective school characteristics. Clearly, while all the reviews assume that effective schools can be differentiated from ineffective ones there is not yet consensus on just what the salient characteristics happen to be.

[4]After the positive and negative outliers had been identified in the New York Study the researchers compared the two groups of schools on a variety of input variables. If SES had been adequately controlled, the schools should have had an equal chance of having a compensatory education program--as it turned out the "negative" schools (.30) had almost twice the incidence of compensatory education programs as the "positive" schools (.17). In the Maryland study the confounding was even worse--the average income of the "high" and "low" schools differed by over one-half a standard deviation, 36 percent of fathers of students in the "high" schools had graduated from secondary school compared to only 9 percent in the "low" schools, etc.

[5]Though most of the outlier studies eventually turn into case studies, it is worth distinguishing between the two types on the basis of the method used to identify and select a sample. One difference is that original case studies tend to select successful and unsuccessful schools in a less systematic manner than do the outlier approaches. Weber (1971), for example, selected four schools from schools

"nominated" by "specialists in the field of reading, publishers, school officials and superintendents of five big-city systems." Second, in a number of the case studies the investigator looked only at "exemplary" schools. This means that elements that are common to both "ineffective" and "effective" schools cannot be distinguished from elements that are common only to "effective" schools.

[6]See Brookover and Lezotte 1979, Appendix I, Part B. The authors report that improving schools' staffs assume that all of their students can master the schools' basic objectives. The data indicate, however, that only 35 percent of the teachers in improving schools felt that all of their students could be taught basic skills. We note, however, that unlike many of the other case studies, Brookover and Lezotte included data as well as conclusions.

[7]See Journal of Sociology of Education, Spring 1982, for an interesting set of critiques and views, with a response by Coleman.

[8]Miles (1981), however, suggests that we actually have little empirical data on what schools are like organizationally. In attempting to determine the "common properties" of elementary and secondary schools, researchers have occasionally confused "inherent properties," that stem from the "core features" of schools (such as the educational processing of groups of students), with "historical properties," that are the result of legislation, social movements and the like. He advocates isolating the primary organizational tasks of schools (providing educational services, relating to the community outside of school, etc.) and then investigating how schools function in meeting these tasks. Drawing on a variety of perspectives (bureaucratic theory, systems theory, structural/functional analysis, loose coupling, etc.)

Miles suggests that schools tend to face nine dilemmas (pp. 50-53) in their efforts to fulfill their tasks but that in general, schools seem to share the following properties that affect their receptiveness to change efforts: vague goals, the achievement of which is not easily measured; vulnerability to their surrounding environments; weak production functions; and inappropriate incentive structures for students and staff (p. 111).

While this brief summary does not adequately convey the content of this provocative article, the point to be made is that in analyzing the schools' responses to the nine dilemmas, a description of schools compatible with that provided by loose coupling theory and political systems approaches emerges (though secondary schools are likely to be more "political" than elementary schools due to their increased size and complexity). The cultural approach we adopt assumes that schools exhibit features of both loosely coupled and political systems. Thus, while we recommend Miles' article, his conclusions (and warnings) seem to be in line with our notion of school organization and its impact on effectiveness.

[9]This statement remains accurate at this point in time. However, recently research in the area of direct (or "active") instruction, particularly involving subjects such as math and reading at the early elementary level, suggests the emergence of a firmer technology (Rosenshine 1981; Anderson, Evertson and Brophy 1979, 1982; Good and Grouws 1979).

[10]Since the research is dominated by studies of elementary schools, the student role in building school effectiveness has not been addressed. Clearly, however, older students can have productive roles

in creating and maintaining and appropriate school climate (U.S. Department of Health, Education and Welfare, The Safe School Study 1978; Rutter 1981). This factor, in particular, offers opportunities for students to be actively involved in promoting and rewarding academic achievement.

[11]See Popkewitz et al. (1982) for an interesting study of six elementary schools that had implemented Individually Guided Education (IGE). Each school forged consensus around the specific goals/practices inherent in the IGE model. However, after becoming IGE schools they differed from each other in many respects, particularly in the style of work demanded of students, the conception of knowledge contained within the curriculum, and the professional ideology of the staff. In general, the variations stemmed from the interplay among different socio-cultural contexts in which the schools existed, the influence of different community interest groups on each school, and the different educational interests and beliefs of the school staffs. Of relevance here is the fact that rather different outcomes are likely even if all schools reach consensus around the same goal of increasing pupils' academic achievement. While this likely diversity may be welcomed, and buttresses the argument in favor of a school-specific cultural approach to effectiveness, it does suggest that educators hoping to make all schools academically alike may be disappointed.

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